olicies apply.
They are available for your review at:

http://www.cas.org/legal/infopolicy.html

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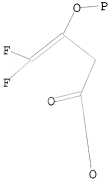

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Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

FULL SEARCH INITIATED 13:58:26 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 36 TO ITERATE

100.0% PROCESSED 36 ITERATIONS 1 ANSWERS
SEARCH TIME: 00.00.01

L6 1 SEA SSS FUL L5

L7 1 L6

=> d ibib abs hitstr

L7 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:29299 CAPLUS
DOCUMENT NUMBER: 142:113615
TITLE: Three-step method for producing alkyl 4,4-difluoroacetoacetate esters
INVENTOR(S): Gallenkamp, Bernd; Mulder, Lubbertus
PATENT ASSIGNEE(S): Bayer Cropscience Aktiengesellschaft, Germany
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005003077	A1	20050113	WO 2004-EP6607	20040618
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10331496	A1	20050127	DE 2003-10331496	20030711
EP 1644314	A1	20060412	EP 2004-740053	20040618
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1812959	A	20060802	CN 2004-80018512	20040618
JP 2007506673	T	20070322	JP 2006-518011	20040618
US 20060149091	A1	20060706	US 2005-561031	20051216
IN 2005DN05898	A	20070824	IN 2005-DN5898	20051219
PRIORITY APPLN. INFO.:			DE 2003-10329450 A	20030701
			DE 2003-10331496 A	20030711
			WO 2004-EP6607 W	20040618

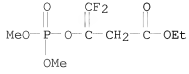
OTHER SOURCE(S): CASREACT 142:113615; MARPAT 142:113615

AB Alkyl difluoroacetoacetate esters (e.g., Et 4,4-difluoroacetoacetate) are prepared by: (A) a reaction of alkyl 4-chloro-4,4-difluoroacetoacetates (e.g., Et 4-chloro-4,4-difluoroacetoacetate) with trialkyl phosphites P(OR1)3 (R1 = C1-4 alkyl; e.g., tri-Me phosphite) giving phosphate esters F2C:C[OP(:O)(OR1)2]CH2CO2R [R = alkyl; e.g., Et 3-[(dimethoxyphosphoryl)oxy]-4,4-difluorobut-3-enoate]; (B) the step (A) phosphate esters are reacted with an amine HN(R2)R3 (R2, R3 = H, C1-4 alkyl; e.g., diisopropylamine) to give enamines F2C:C[N(R2)R3]CH2CO2R [e.g., Et 3-(diisopropylamino)-4,4-difluorobut-3-enoate]; and (C) acid (e.g., aqueous HCl) hydrolysis of the step (B) enamines.

IT 823234-80-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in a three-step method for producing alkyl 4,4-difluoroacetoacetate esters)

RN 823234-80-6 CAPLUS
CN 3-Butenoic acid, 3-[(dimethoxyphosphinyl)oxy]-4,4-difluoro-, ethyl ester

(CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L8 STRUCTURE UPLOADED

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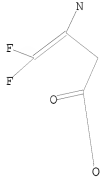
L8 HAS NO ANSWERS
L8 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l6 full
L9 1 L6

=> d ibib abs hitstr

L9 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:29299 CAPLUS
DOCUMENT NUMBER: 142:113615
TITLE: Three-step method for producing alkyl 4,4-difluoroacetoacetate esters
INVENTOR(S): Gallenkamp, Bernd; Mulder, Lubbertus
PATENT ASSIGNEE(S): Bayer Cropscience Aktiengesellschaft, Germany
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent

LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005003077	A1	20050113	WO 2004-EP6607	20040618
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10331496	A1	20050127	DE 2003-10331496	20030711
EP 1644314	A1	20060412	EP 2004-740053	20040618
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1812959	A	20060802	CN 2004-80018512	20040618
JP 2007506673	T	20070322	JP 2006-518011	20040618
US 20060149091	A1	20060706	US 2005-561031	20051216
IN 2005DN05898	A	20070824	IN 2005-DN5898	20051219

PRIORITY APPLN. INFO.: DE 2003-10329450 A 20030701
DE 2003-10331496 A 20030711
WO 2004-EP6607 W 20040618

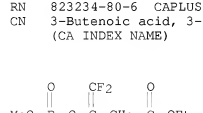
OTHER SOURCE(S): CASREACT 142:113615; MARPAT 142:113615

AB Alkyl difluoroacetoacetate esters (e.g., Et 4,4-difluoroacetoacetate) are prepared by: (A) a reaction of alkyl 4-chloro-4,4-difluoroacetoacetates (e.g., Et 4-chloro-4,4-difluoroacetoacetate) with trialkyl phosphites P(OR1)3 (R1 = C1-4 alkyl; e.g., tri-Me phosphite) giving phosphate esters F2C:C[OP(:O)(OR1)2]CH2CO2R [R = alkyl; e.g., Et 3-[(dimethoxyphosphoryl)oxy]-4,4-difluorobut-3-enoate]; (B) the step (A) phosphate esters are reacted with an amine HN(R2)R3 (R2, R3 = H, C1-4 alkyl; e.g., diisopropylamine) to give enamines F2C:C[N(R2)R3]CH2CO2R [e.g., Et 3-(diisopropylamino)-4,4-difluorobut-3-enoate]; and (C) acid (e.g., aqueous HCl) hydrolysis of the step (B) enamines.

IT 823234-80-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in a three-step method for producing alkyl 4,4-difluoroacetoacetate esters)

RN 823234-80-6 CAPLUS

CN 3-Butenoic acid, 3-[(dimethoxyphosphinyl)oxy]-4,4-difluoro-, ethyl ester (CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L9 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:29299 CAPLUS
DOCUMENT NUMBER: 142:113615
TITLE: Three-step method for producing alkyl 4,4-difluoroacetoacetate esters
INVENTOR(S): Gallenkamp, Bernd; Mulder, Lubbertus
PATENT ASSIGNEE(S): Bayer Cropscience Aktiengesellschaft, Germany
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005003077	A1	20050113	WO 2004-EP6607	20040618
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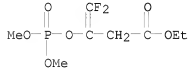
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10331496	A1	20050127	DE 2003-10331496	20030711
EP 1644314	A1	20060412	EP 2004-740053	20040618
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1812959	A	20060802	CN 2004-80018512	20040618
JP 2007506673	T	20070322	JP 2006-518011	20040618
US 20060149091	A1	20060706	US 2005-561031	20051216
IN 2005DN05898	A	20070824	IN 2005-DN5898	20051219
PRIORITY APPLN. INFO.:			DE 2003-10329450 A	20030701
			DE 2003-10331496 A	20030711
			WO 2004-EP6607 W	20040618

OTHER SOURCE(S): CASREACT 142:113615; MARPAT 142:113615

AB Alkyl difluoroacetoacetate esters (e.g., Et 4,4-difluoroacetoacetate) are prepared by: (A) a reaction of alkyl 4-chloro-4,4-difluoroacetoacetates (e.g., Et 4-chloro-4,4-difluoroacetoacetate) with trialkyl phosphites P(OR1)3 (R1 = C1-4 alkyl; e.g., tri-Me phosphite) giving phosphate esters F2C:C[OP(:O)(OR1)2]CH2CO2R [R = alkyl; e.g., Et 3-[(dimethoxyphosphoryl)oxy]-4,4-difluorobut-3-enoate]; (B) the step (A) phosphate esters are reacted with an amine HN(R2)R3 (R2, R3 = H, C1-4 alkyl; e.g., diisopropylamine) to give enamines F2C:C[N(R2)R3]CH2CO2R [e.g., Et 3-(diisopropylamino)-4,4-difluorobut-3-enoate]; and (C) acid (e.g., aqueous HCl) hydrolysis of the step (B) enamines.

IT 823234-80-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in a three-step method for producing alkyl 4,4-difluoroacetoacetate esters)
RN 823234-80-6 CAPLUS
CN 3-Butenoic acid, 3-[(dimethoxyphosphinyl)oxy]-4,4-difluoro-, ethyl ester (CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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REGlstRY INITIATED
Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.

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FULL SCREEN SEARCH COMPLETED - 42 TO ITERATE

100.0% PROCESSED 42 ITERATIONS 2 ANSWERS
SEARCH TIME: 00.00.01

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L11 2 L10

=> d 1-2 ibib abs hitstr

L11 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:29299 CAPLUS
DOCUMENT NUMBER: 142:113615
TITLE: Three-step method for producing alkyl 4,4-difluoroacetoacetate esters
INVENTOR(S): Gallenkamp, Bernd; Mulder, Lubbertus
PATENT ASSIGNEE(S): Bayer Cropscience Aktiengesellschaft, Germany
SOURCE: PCT Int. Appl., 24 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005003077	A1	20050113	WO 2004-EP6607	20040618
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10331496	A1	20050127	DE 2003-10331496	20030711
EP 1644314	A1	20060412	EP 2004-740053	20040618
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
CN 1812959	A	20060802	CN 2004-80018512	20040618
JP 2007506673	T	20070322	JP 2006-518011	20040618
US 20060149091	A1	20060706	US 2005-561031	20051216
IN 2005DN05898	A	20070824	IN 2005-DN5898	20051219

PRIORITY APPLN. INFO.:

DE 2003-10329450	A	20030701
DE 2003-10331496	A	20030711
WO 2004-EP6607	W	20040618

OTHER SOURCE(S): CASREACT 142:113615; MARPAT 142:113615

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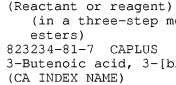
IT 823234-81-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(in a three-step method for producing alkyl 4,4-difluoroacetoacetate esters)

RN 823234-81-7 CAPLUS

CN 3-Butenoic acid, 3-[bis(1-methylethyl)amino]-4,4-difluoro-, ethyl ester (CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1996:309977 CAPLUS
DOCUMENT NUMBER: 125:87124
ORIGINAL REFERENCE NO.: 125:16457a,16460a
TITLE: Biomimetic base-catalyzed [1,3]-proton shift reaction. A practical synthesis of β-fluoroalkyl-β-amino acids
AUTHOR(S): Soloshonok, Vadim A.; Kukhar, Valery P.
CORPORATE SOURCE: Natl. Inst. Res., Inst. Nagoya, Nagoya City, 462, Japan
SOURCE: Tetrahedron (1996), 52(20), 6953-6964
CODEN: TETRAB; ISSN: 0040-4020
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 125:87124

AB An efficient approach to practical synthesis of β-fluoroalkyl-β-amino acids is described. The method consists in the reducing reagent-free base-catalyzed biomimetic transamination reaction between fluorinated β-keto carboxylic esters and benzylamine. This transformation involves two sequential base-catalyzed [1,3]-proton transfers giving rise to corresponding N-benzylidene derivs. as the products of final thermodn. equilibration, directed by the electron-withdrawing character of fluoroalkyl groups. Opportunity for catalytic enantiocontrolled synthesis of targeted β-amino acids with application of monochiral base, as a catalyst for these isomerizations, is demonstrated.

IT 178381-17-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis of fluoroalkyl β-amino acids via isomerization of benzyl enamines)

RN 178381-17-4 CAPLUS
CN 3-Butenoic acid, 4,4-difluoro-3-[(phenylmethylene)amino]-, methyl ester (CA INDEX NAME)